

# **PM&E Development**

Narrative Reports:

EWG-13A, EWG-13B, EWG-20

# EWG-13A and 20: LWD Placement

- Potential Benefits:
  - Improve habitat diversity – cover and velocity diversity
  - Enhance salmonid rearing habitat quality
  - Create scour pools for potential spring-run Chinook holding habitat
  - Capture sediment and form benches for riparian vegetation recruitment
  - Enhance LWD retention (snags)
  - Enhance LWD contribution to habitat values in lower Feather River and Delta

# EWG-13A and 20: LWD Placement

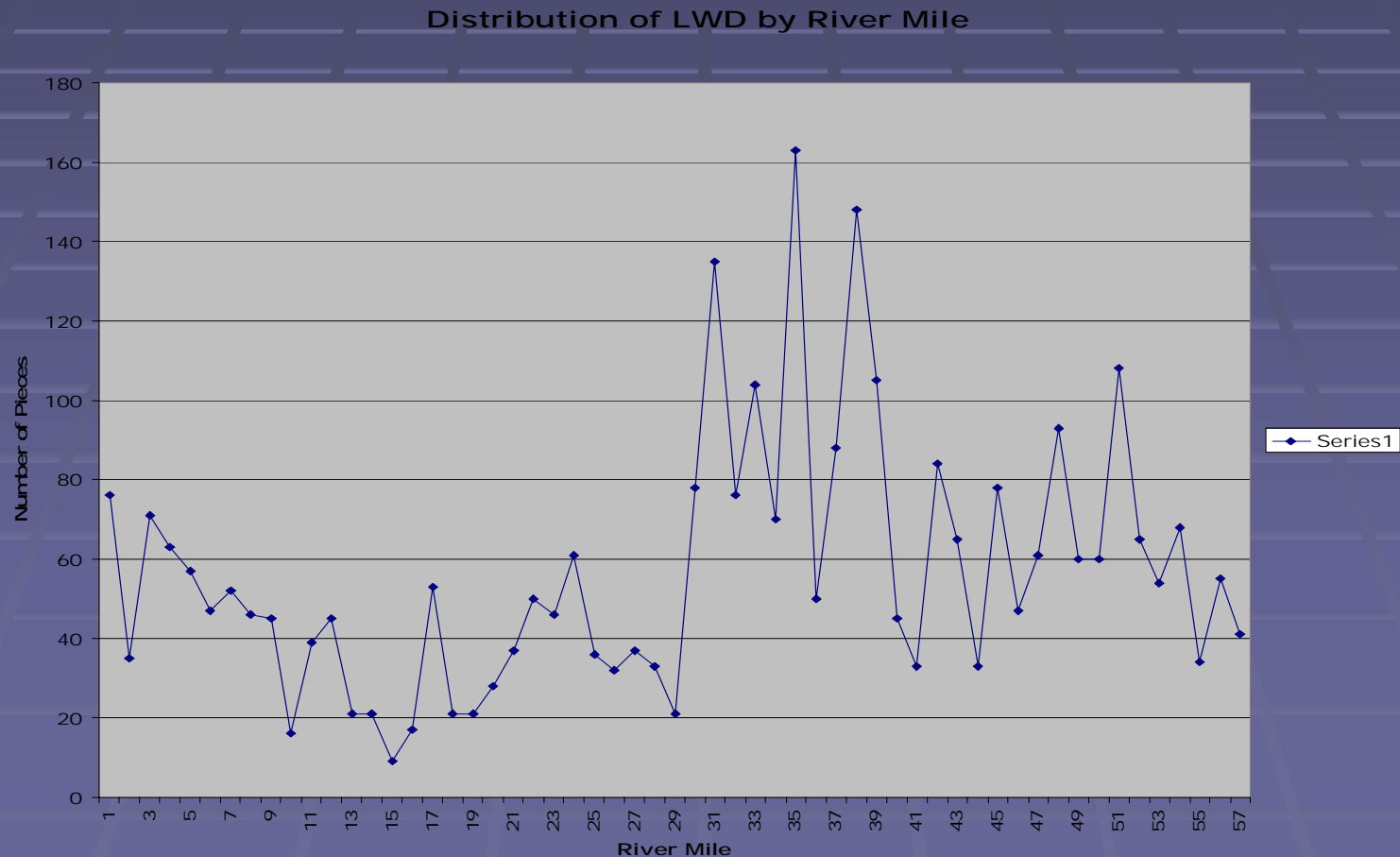
- Design considerations:
  - Most successful LWD placement programs occur in smaller streams
  - Most LWD placed would expect to be lost at each high flow event
  - Anchored or engineered “debris jams” could be placed in protected locations (behind hard points or in backwaters)
  - Backwater placement of LWD would likely benefit warmwater predators

# EWG-13A and 20: LWD Placement

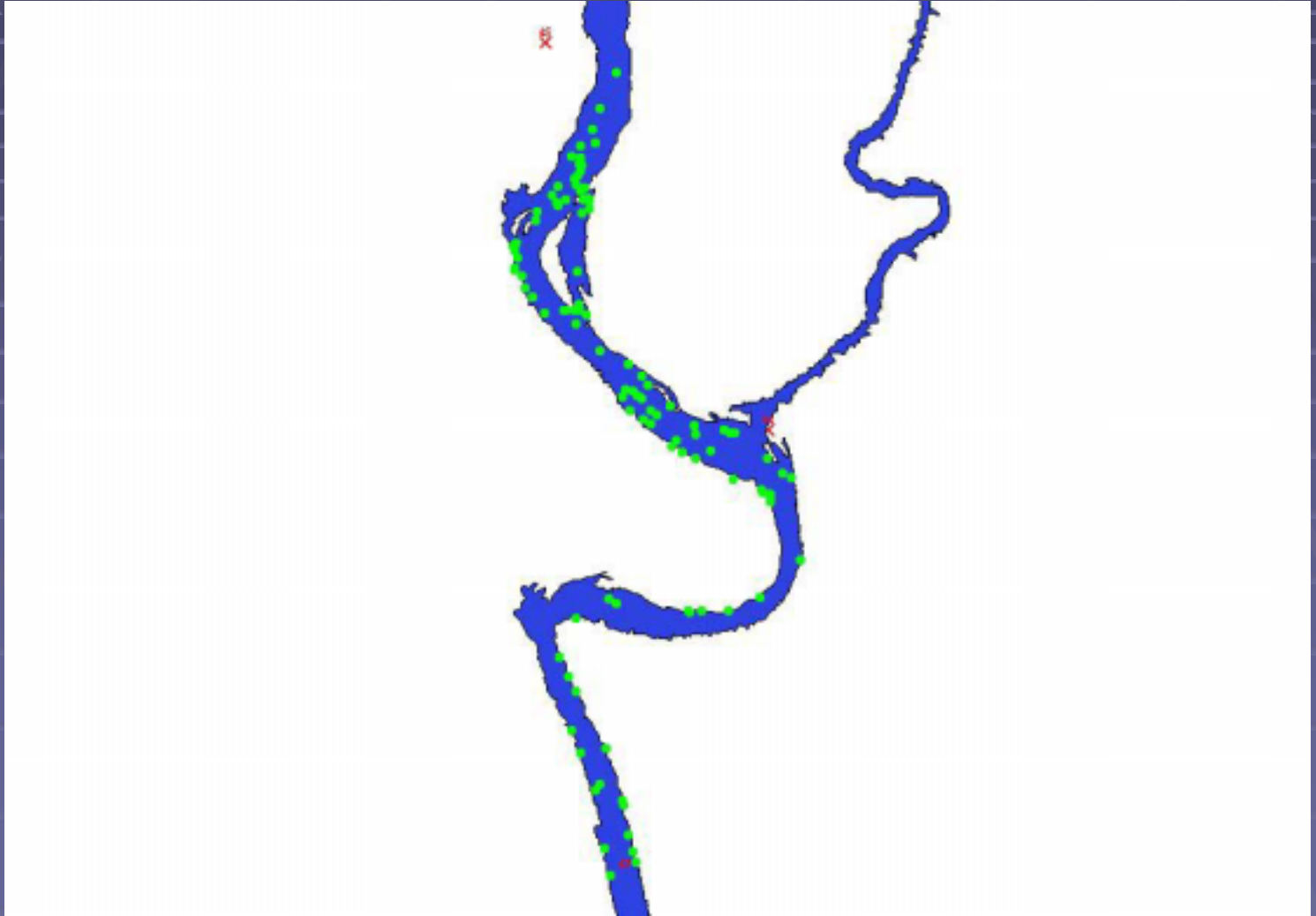
- Design considerations:
  - LWD placements would be Recreation hazards to boating and swimming safety
  - In the LFC there is little sediment for the LWD to capture, so unless this PM&E was coupled with a sediment placement program, an important function of LWD would not be accomplished

# EWG-13A and 20: LWD Placement

- HFC LWD Distribution:



# EWG-13A and 20: HFC – LWD Distribution



# **EWG-13B: Fish Rearing Habitat Enhancement in LFC Through Addition of Mainstream Structures**

## **Objective:**

- Increase quantity and quality of rearing habitat for juvenile steelhead and Chinook salmon
- **Description:**
  - Create additional cover, edge, and flow complexity through the addition of LWD (see EWG-13A), boulders, and other objects, and by the creation of mid-channel gravel islands

# **EWG-13B: Fish Rearing Habitat Enhancement in LFC Through Addition of Mainstream Structures**

- **Potential Benefits:**
  - Improve habitat diversity – cover, depth and velocity diversity
  - Enhance salmonid rearing habitat quality
  - Encourage sediment sorting and storage (including gravel recruitment)
  - Moderate peak flows and create pools
  - Provide substrate and food for invertebrates



# **EWG-13B: Fish Rearing Habitat Enhancement in LFC Through Addition of Mainstream Structures**

- Design considerations:
  - Most successful instream structure programs occur in smaller streams
  - Most features placed would expect to be lost at each high flow event
  - Anchored or engineered “debris jams” could be placed in protected locations (behind hard points or in backwaters)
  - Backwater placement of instream structures would likely benefit warmwater predators

# **EWG-13B: Fish Rearing Habitat Enhancement in LFC Through Addition of Mainstream Structures**

- Design considerations:
  - Instream structure design needs to be coordinated with the flow regime
  - Upstream gravel, sediment and LWD recruitment are impacted in the LFC, so unless this PM&E was coupled with a sediment, LWD and or gravel placement program, important functions of instream structures would not be accomplished